Unitywater

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Pr8700 - Trade Waste Management Plan

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Document Details

This document is only valid on the day it was printed.

Document Owner	Executive Manager Customer Experience
References	*Environmental Protection Act 1994* (Qld) *Environmental Protection Regulation 2019* (Qld) *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (Qld) *Local Government Act 2009* (Qld) *Planning Act 2016* (Qld) *Plumbing and Drainage Act 2018* (Qld) *Plumbing and Drainage Regulation 2019* (Qld) *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009* (Qld) *Water Act 2000* (Qld) *Water Supply (Safety and Reliability) Act 2008* (Qld) OP8136 - Trade Waste Policy Pr9007 - Procedure for Category Assessments of Trade Waste Applications F10582 - Trade Waste Application Form

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1. Introduction

1.1 Vision

Unitywater's vision is:

"*To be a sustainable water and sewerage service provider that creates value for its customers and returns value to its stakeholders."*

This vision is reflected in the philosophy for the provision of sewerage services as reflected by the Trade Waste Policy.

Unitywater considers the provision of these services to be a partnership between itself and the community and therefore promotes a cooperative approach to trade waste management.

Unitywater's commitment to every customer is to provide a water supply and sewerage network that continuously meets the needs of our growing communities and delivers products and services that provide value in everyday life.

1.2 Unitywater

Unitywater is a statutory authority, formed under the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*. Governed by an independent Board, we have a Participation Agreement with the Moreton Bay Regional Council (now known as City of Moreton Bay), Sunshine Coast Council and the Noosa Council. We service these local authority areas.

What we do:

On behalf of the Moreton Bay, Sunshine Coast and Noosa communities, Unitywater:

- Maintains and supplies drinking quality water to homes, businesses and public areas;
- Collects, treats and disposes of sewage;
- Manages trade waste from our business and industrial customers;
- Provides around-the-clock response to water and sewerage emergencies;
- Manages customer and stakeholder enquiries;
- Issues and manages water and sewerage accounts;
- Provides responsive 24/7 incident, media and public information to ensure that our communities are prepared, informed and supported as needed;
- Builds, manages, operates and maintains our water and sewerage infrastructure;
- Provides returns to our participating councils;
- Supports the communities we operate in; and
- Promotes the environmental improvement of our waterways.

1.3 Trade Waste

Trade waste is water-borne waste from business, trade or manufacturing premises, other than:

- waste that is a prohibited substance; or
- human waste; or
- stormwater.

Trade waste is produced by a variety of industrial, commercial and other activities. Queensland legislation provides a general prohibition against environmental pollution by the discharge of such wastes, except where the person or agency holds an Environmental Authority permitting such discharge. It also prohibits the unauthorised discharge of waste into the sewerage system. Thus, producers of liquid wastes must either obtain permission to discharge to the sewerage system (by agreement with, and where applicable, payment to, Unitywater) or obtain an authority to discharge to the environment.

Unitywater provides a sewerage system primarily for the transport and treatment of domestic sewage. Payment for this service is collected through sewerage charges on each residential property. This system may also be used, where appropriate, for the acceptance and treatment of trade waste. Trade waste imposes an additional load on the sewerage system, therefore sewerage charges for non-residential customers are levied according to the volume and/or characteristics of the wastewater discharged to Unitywater's sewer.

Unitywater is required to meet the conditions of the State Government (at the time of writing this Management Plan this is via the Environmental Authority), issued by DESI, for its sewerage system including the disposal and reuse of treated effluent and biosolids. Unitywater is also required by legislation to assess the potential impact of trade waste on sewerage and the environment before issuing a trade waste approval.

Trade waste may have an organic strength many times that of domestic sewage and may also contain a variety of other substances, such as heavy metals, organic solvents, chlorinated organics or high levels of fats and grease. Generally, the sewerage system is not designed to treat these substances and they may pose a health and safety risk to Unitywater's employees as well as asset management risks. Damage may also be caused to the sewerage system by the inappropriate discharge of trade waste, which can negatively impact on biological treatment processes, accumulate in sludges rendering them unsuitable for biosolids reuse or pass through the treatment process untreated leading to pollution of the receiving waters.

1.4 Conditional Acceptance

Unitywater's policy is to accept, subject to conditions, biodegradable waste into the sewerage system, provided that:

- the system has adequate capacity to effectively collect, transport and treat the waste;
- the waste does not hinder the recycling of by-products; and
- In accordance with the principles of ecological sustainability and eco-efficiency, all practicable waste minimisation, recycling and reuse options have been applied by the customer.

Discharge of waste containing substances in amounts liable to be toxic or hazardous to sewerage infrastructure, personnel or the environment is prohibited unless authorised by Unitywater.

Unitywater may consider the acceptance of trade waste containing toxic or hazardous substances and non-degradable pollutants to sewer only after the waste has been pre-treated by appropriate onsite treatment and technology. This ensures that the resulting discharge will not cause environmental harm and sewer admission limits are not exceeded.

In accordance with Unitywater's commitment to meet the legislative environmental requirements relating to the disposal and reuse of effluent and sludges from its sewerage system, together with protecting Unitywater's investment in its sewerage transport system and wastewater treatment facilities, the need for tighter control of trade waste discharge assumes greater importance. As a result, Unitywater will closely monitor and control the discharge of trade waste to the sewerage system via the implementation of the Trade Waste Management Plan.

2. Purpose

The purpose of the Trade Waste Management Plan is to provide detail of how the Policy will apply to industry groups and individual trade waste generators.

3. Applicability

The Trade Waste Management Plan is intended to provide information to:

- Any person (trade waste generator) intending to produce and discharge trade waste;
- An owner of a premises where trade waste is being produced and discharged;
- Environmental regulators of Unitywater's systems;
- Unitywater team members; and
- Liquid waste carriers who discharge waste to Unitywater's sewerage system.

4. Definitions

Term	Meaning
Arrestor	An apparatus designed to intercept and retain silt, sand, grease, oil, sludge and other substances in a waste discharge.
Biochemical Oxygen Demand (BOD_5)	Biochemical Oxygen Demand or BOD_5 is defined as the amount of oxygen utilised by microorganisms in the process of decomposition of organic material in wastewater over a period of 5 days at 20°C. In practical terms, BOD_5 is a measure of the biodegradable organic content of the waste or more simply the organic strength of the liquid.
Biosolids	The treated solids (sludge) mainly organic, produced by sewage treatment.
Chemical Oxygen Demand (COD)	This is a measure of the oxygen required to oxidise organic material in wastewater by a strong chemical oxidant. COD is a measure of the organic and inorganic content, both biodegradable and non-biodegradable, of the waste, or more simply, the organic and inorganic strength of the liquid.
Cleaner Production	Cleaner Production means the continuous application of an integrated preventative environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment, and reduce pollution.
DESI	Queensland Department of Environment, Science and Innovation
Discharge Factor	The "Discharge Factor" is the percentage of the water supplied to the property, as measured by the water meter, which is discharged to the sewerage system. The discharge factor includes all domestic, commercial and industrial wastewater that enters the sewerage system from a property. Discharge factors may range from 0 to 100% and in exceptional circumstances may be greater than 100% if additional material is added to the waste stream as part of the production process.
Domestic Sewage	Faecal matter and urine of human origin and liquid household wastes from water closet pans, sinks, baths, basins and similar fixtures designed for use in private dwellings.
Eco-Efficiency	Eco-efficiency is reached by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle, to a level at least in line with the earth's estimated carrying capacity. In simple terms, eco-efficiency means 'doing more with less' – using environmental resources more efficiently in economic processes.

Term	Meaning
	The World Business Council for Sustainable Development (WBCSD) has identified seven components of eco-efficiency: 1. Reduce material intensity of goods and services. 2. Reduce energy intensity of goods and services. 3. Reduce toxic dispersion. 4. Enhance material recyclability. 5. Maximise sustainable use of renewable resources. 6. Extend product durability. 7. Increase the service intensity of goods and services. One of the ways of achieving eco-efficiency is through Cleaner Production.
Ecological sustainability	Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased (Australia's *National Strategy for Ecologically Sustainable Development (1992)).*
Effluent	The liquid discharged following a wastewater treatment process.
Heavy Metals	Metals of high atomic weight, which in certain concentrations can exert a toxic effect.
Human Wastes	Human faecal substances and urine.
Owner	The Owner of Premise or a Premises Group as defined in the *Local Government Act 2009*.
pH	The measure of acidity or alkalinity of the waste. pH 7 is neutral, below 7 is acidic and above 7 is alkaline.
Premises	Has the meaning awarded by the *Planning Act 2016*, i.e. (a) A building or other structure; or (b) Land, whether or not a building or structure is situated on the land. *And* 'land' has the meaning also given under the *Planning Act 2016,* namely the definition provided in s.949 of that Act and includes: a. Any estate in, on, over or under land; and b. The airspace above the surface of the land and any estate in the airspace; and c. The subsoil of land and any estate in the subsoil.
Premises Group	The land comprised of 2 or more premises, all the owners of which have mutual rights and obligations under the *Body Corporate and Community Management Act 1997 (*BCCMA) or the *Building Units and Group Titles Act 1980* (BUGTA) for the purpose of their respective ownership, and includes the common property forming part of: • if the premises are lots included in a community titles scheme under BCMA – the scheme land for the scheme; or • if the premises are lots under BUGTA – the parcel of which the premises form part.
Prohibited Substances	A substance included in Schedule 1 of the *Water Supply (Safety and Reliability) Act 2008*.
Quick Break Detergents	Detergents which emulsify oil and grease then break the emulsion in less than one (1) hour.
Recycling of Wastewater	• Reuse of wastewater in the process that generated it; or • reprocessing the wastewater to develop a new product; or • using the wastewater (whether on or off the site where it is generated).

Term	Meaning
Regulated waste	Non-domestic waste as mentioned in Schedule 9 of the *Environmental Protection Regulation 2019* (whether or not it has been treated or immobilised) and includes: • for an element – any chemical compound containing the element; and • anything that has contained the waste.
Regulated Waste Carrier	A carrier transporting regulated waste, including the removal of liquid regulated waste from premises by tankers.
Residential Property	A property where the building or buildings constructed or planned for construction on the property are designed for permanent occupancy.
Sewage	The wastewater from the community including all faecal matter, urine, household and commercial wastewater that contain human waste.
Sewerage or Sewerage System	A sewer, access chamber, vent, engine, pump, structure, machinery, outfall or other work used to receive, store, transport or treat sewage.
Stormwater	Stormwater is liquid that results from rain, snow and other forms of precipitation plus anything the liquid carries along with it. As rainwater runs across different surfaces, it can pick up various types of pollutants including: • sediment from exposed soil • oil and grease from driveways and roads • leaves and animal droppings that collect in gutters • chemicals from lawns and gardens.
Stormwater Drainage	A drain, channel, pipe, chamber, structure, outfall or other work used to receive, store, transport or treat stormwater.
Suspended Solids (SS)	Suspended solids refer to the insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter.
Total Dissolved Solids (TDS)	Total dissolved solids refer to salts dissolved in wastewater.
Total Oil and Grease (TOG)	The total amount of oil and grease in sewage or effluent.
Trade Waste	The water-borne waste from business, trade or manufacturing premises, other than: • waste that is a prohibited substance; or • human waste; or • stormwater.
Trade Waste Agreement	A trade waste agreement is a trade waste approval for the discharge of liquid waste classified as category 2 - higher risk. It states the terms and conditions the approval holder must observe to discharge trade waste into Unitywater's sewerage system.
Trade Waste Approval	Written approval by Unitywater for a person to discharge trade waste to Unitywater's sewerage system. See trade waste agreement and trade waste permit.
Trade Waste Generator	Any person, owner, occupier, company or body whose activity produces or has the potential to produce trade waste.
Trade Waste Officer	A person holding appointment as a trade waste officer of Unitywater.
Trade Waste Permit	A trade waste permit is trade waste approval for the discharge of liquid waste classified as category 1 – medium risk. It states the terms and conditions the approval holder must observe to discharge trade waste into Unitywater's sewerage system.
WSAA	The Water Services Association of Australia.

5. Policy

Unitywater will provide a liquid waste disposal service for non-domestic, commercial and industrial waste in accordance with the principles of ecological sustainability and in a manner which safeguards public health consistent with Unitywater's legislative obligations and supports Unitywater's asset management objectives.

6. Intent

A trade waste approval is the written approval from Unitywater that states the requirements and conditions under which discharge to sewer is allowed. Approval for the discharge of trade waste is granted in the form of a Trade Waste Permit or a Trade Waste Agreement, depending on the level of risk Unitywater perceives the discharge poses to the health and safety of team members or to the condition of sewerage assets. Acceptance of any given trade waste to sewer shall always be at the discretion of Unitywater.

6.1 Persons who Require Approval

A person must not discharge trade waste into a service provider's infrastructure without the written consent of the service provider. Any person wishing to discharge trade waste to sewer must apply for a trade waste approval (refer Section 6.2).

6.1.1 Persons requiring a trade waste approval:

- Persons who generate trade waste but do not own the premises;
- Persons who generate trade waste and own the premises or responsibility for the pre-treatment.

6.1.2 Persons exempt from requiring a trade waste approval:

- Persons who generate a waste stream from a deemed business as per Section 6.5 of the Trade Waste Management Plan.

6.2 Application Procedures

Customers conducting activities listed in Table 3 of Annexure B - Approvals – Deemed Customers and Risk Assessment are deemed to be exempt from applying for a trade waste approval. This list is not exhaustive and will be updated by Unitywater as more deemed activities are identified.

Customers whose activities are not listed in Table 3 of Annexure B - Approvals – Deemed Customers and Risk Assessment must, unless otherwise notified by Unitywater, complete and lodge a Trade Waste Application Form. An application, signed by the person wishing to discharge trade waste to Unitywater's sewer, must be lodged at the following times in respect of any premises where trade waste is generated or likely to be generated:

- during the processing of a Building or Plumbing Application for new premises or extensions intended for industrial and/or commercial usage;
- shop fit outs of such premises;
- prior to the discharge of a trade waste into Unitywater's sewer;
- existing premises where trade waste is generated and no permit or agreement has been issued;
- change in tenancy or ownership of such premises;
- during the processing of an application to strata title of such premises; and
- where a change, for example in process technology, occurs which could change the volume or characteristics of the trade waste generated.

Licensed liquid waste transporters wishing to discharge domestic waste, septic tank waste, portable toilet waste or other approved holding tank or liquid waste to Unitywater infrastructure must apply for a Permit and then will need to enter into an Agreement.

Further information on trade waste application procedures, application forms and advice on trade waste issues, is available from Unitywater in the following ways:

Table 1: Contacts for Unitywater

Email	tradewaste@unitywater.com
Website	www.unitywater.com/trade-waste
Phone	1300 086 489 (Customer Service Centre)
Write	PO Box 953 Caboolture Qld 4510

Applications should include sufficient detail to enable an appropriate risk assessment to be conducted (refer Section 6.4 and Annexure B). Failure to provide all required information can result in delays in approvals.

6.3 Evaluation of the Application

When Unitywater has received the application form it will consider the risk associated with accepting the type of trade waste proposed into the sewerage system. This evaluation will consider:

- The possible impact on the health and wellbeing of the workers in or around the sewerage system;
- The impact or possible effect on the sewerage system;
- Any potential impact of the waste on the sewage treatment plant process; and
- Any possible detrimental environmental impact.

Trade waste may be accepted into the sewerage system if it does not cause any of the above concerns and meets the terms and conditions as specified in any trade waste approval given by Unitywater.

A Trade Waste officer may be in contact with the customer and may wish to conduct a site visit prior to granting permission to discharge trade waste to Unitywater's sewerage system.

General advice on treatment and disposal options for non-sewerable waste may be obtained from Unitywater; however detailed advice should be sought from an appropriately qualified advisor.

6.4 Risk Assessment

When a trade waste application is received by Unitywater, an initial risk assessment will be undertaken to determine the degree of risk the trade waste poses to Unitywater's sewerage system. A simple risk formula will be used to consider the following aspects of your business and trade waste discharge:

- The type of process used to produce the waste stream;
- The quality of the waste stream;
- The volume of the waste produced;
- The level of pre-treatment provided; and
- The performance history of the customer (compliance).

The formula provides a risk index from 0 to 2 which determines how the customer will be categorised and what the next stages will involve.

Risk Index 0 denotes a very low risk and requires no further action. These are 'Deemed' customers.

Risk Index 1 denotes a minimal to medium risk and indicates that a Category 1 Trade Waste Permit will be required. Category 1 customers undergo a further assessment to allocate to a Treatment Tier for pricing.

Risk Index 2 denotes a high risk and indicates that a more detailed risk assessment process will be required to determine the level of additional pre-treatment that may be necessary. This may include flow equalisation or cleaner production practises to reduce the residual risk to an acceptable level.

Where the outcome of the detailed risk assessment is favourable, a Trade Waste Agreement will be required. Where an acceptable level of risk cannot be achieved with the above methods, a trade waste approval will not be issued.

For more information on the risk assessment process, refer to Annexure B - Approvals – Deemed Customers and Risk Assessment.

6.5 Discharge Categories

All trade waste accepted to the sewer will be classified using the following categories:

'Deemed' Customer – Very Low Risk

Customers not requiring a trade waste permit

- Very low risk (risk index = 0);
- No pre-treatment required;
- Below target sewer admission limits (refer Section 6.7);
- Contains no substances listed in the mandatory sewer admission limits (refer Section 6.7);
- Very small volume;
- Similar to domestic sewage in characteristics;
- Customers listed in Table 3 in Annexure B - Approvals – Deemed Customers and Risk Assessment.

Category 1 – Minimal to Medium Risk

Customers requiring a Trade Waste Permit and allocated a Treatment Tier

- Minimal to medium risk (risk index = 1);
- Pre-treatment may be required as higher strength than domestic sewage;
- Generally below target sewer admission limits (refer Section 6.7);
- Contains no substances listed in the mandatory sewer admission limits (refer Section 6.7);
- Small to medium volume;
- Usually commercial customers.

Category 2 – High Risk

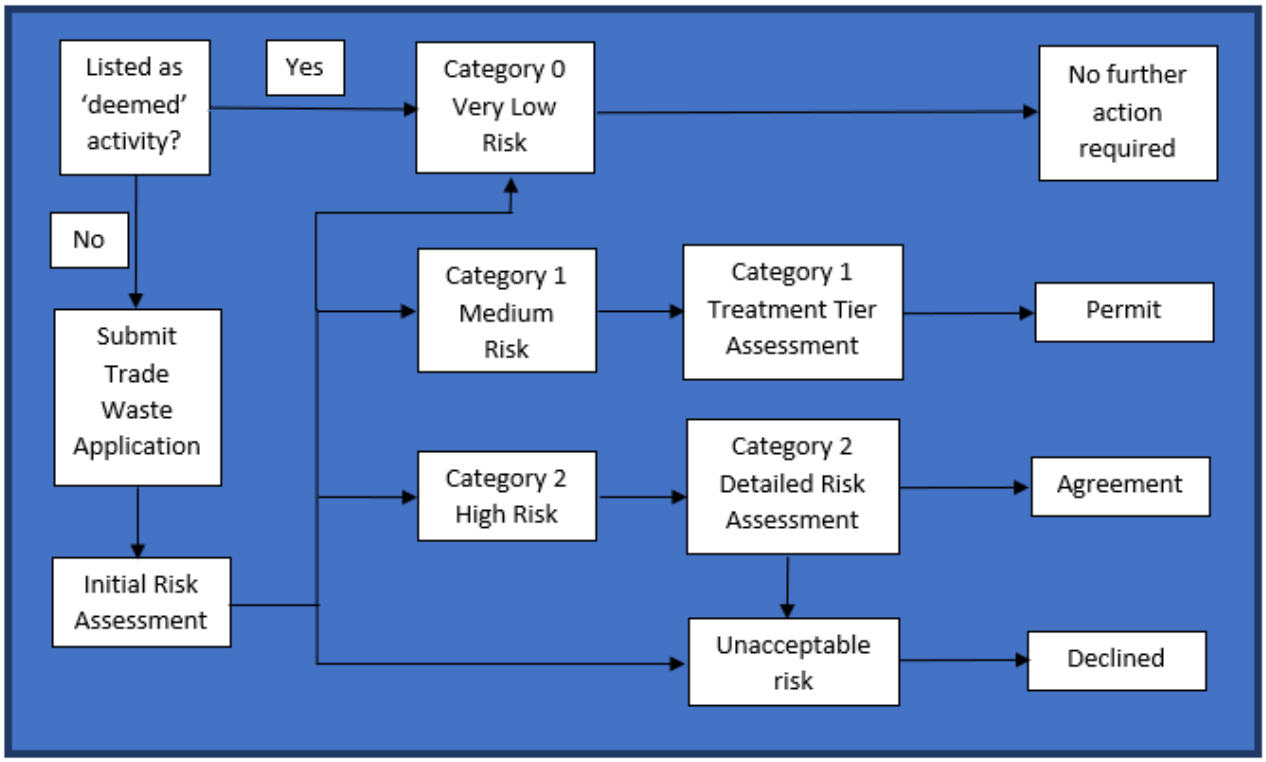
Customers requiring a Trade Waste Agreement

- High risk (risk index = 2);
- More complex pre-treatment required;
- Large volume and/or exceeds target sewer admission limits and/or has the potential to contain substances listed in the mandatory sewer admission limits;
- Usually industrial customers.

6.6 Approvals Overview

The approvals procedure can be represented diagrammatically as shown in Figure 1:

Figure 1: Approvals Procedure



6.7 Approvals Information

6.7.1 Sewer Admission Limits

Each application for trade waste discharge will be reviewed individually using a risk based approach and limits will be placed on the concentration of pollutants in a waste stream in accordance with the requirements of the Policy.

The trade waste sewer admission limits are detailed in Annexure C - Treatment Tier Assessment Criteria and are subject to periodic review. Unitywater may impose more stringent limits if in its view this is required to meet the objectives of the Policy.

The sewer admission limits are defined as either mandatory limits or target limits.

Target sewer admission limits

Target sewer admission limits reflect the typical levels of biological and chemical constituents found in domestic sewage. Any waste discharged to Unitywater's sewer must comply with the target sewer admission limits set out in Annexure C - Treatment Tier Assessment Criteria unless otherwise specified in the trade waste approval.

However, Unitywater may, at its discretion, negotiate the acceptance of trade waste which exceeds the target sewer admission limit. Additional charges may apply (refer Section 6.10). An Effluent Improvement Plan may also be required (refer Section 6.12) in line with cleaner production principles.

Mandatory sewer admission limits

Any waste discharged to Unitywater's sewer must comply with the mandatory sewer admission limits set out in Annexure C - Treatment Tier Assessment Criteria unless otherwise specified in the trade waste approval.

The mandatory sewer admission limits, unless otherwise specified in the trade waste approval, are absolute maximums.

6.7.2 Permits

A customer producing waste assessed as suitable for sewer discharge and classified as Category 1 may be issued with a written trade waste approval in the form of a Trade Waste Permit (Permit) which shall remain in force until suspended or cancelled.

When the customer is not the owner of the premises, a copy of the Permit may also be supplied to the owner in cases where the property owner may need to be aware of conditions of the Permit.

Trade Waste Permits are not transferable.

The Trade Waste Permit states the terms and conditions the holder of the permit must observe to discharge trade waste to Unitywater's sewerage system. These may include, but are not limited to:

- The location of the premises and nature of the occupancy;
- Nature of waste to be discharged to sewer;
- Admission limits for waste to be discharged to sewer;
- The obligation of the permit holder concerning any variations to operation or treatment processes that may affect discharge quantity or quality including change of business type;
- Details of any pre-treatment requirements including:
    - location and site plan;
    - size and treatment capacity; and
    - conditions for maintenance of and removal of waste from pre-treatment equipment.
- The powers of Unitywater's Trade Waste Officer to enter premises in relation to any matter regarding trade waste control;
- The obligations of the customer with respect to payment of charges, fees and penalties;
- Unitywater's rights to review the permit and conditions, impose additional conditions, or amendments, or delete any existing conditions;
- Reporting arrangements for breaches of any Trade Waste Approval conditions; and
- Any other conditions considered by Unitywater to be appropriate.

6.7.3 Agreements

A customer producing waste assessed as suitable for sewer discharge and classified as Category 2 may be issued with a written trade waste approval in the form of a Trade Waste Agreement (Agreement). The Agreement shall remain in force for the specified period unless cancelled earlier.

Trade Waste Agreements are not transferable.

The Trade Waste Agreement states the terms and conditions the holder of the Agreement must observe to discharge trade waste to Unitywater's sewerage system. These may include, but are not limited to:

- The location of the premises and nature of the occupancy;
- Rate of discharge including:
  - the average per day, maximum per day, per hour and per second;
  - hours of day when discharges are allowed;
  - for large flows - number and size of flow equalisation/balancing tanks provided.
- Waste characteristics, including:
  - nature and composition of wastes;
  - maximum and average concentration of pollutants in wastewater.
- Details of any pre-treatment requirements, including:
  - location and site plan;
  - size and treatment capacity;
  - internal wastewater drainage;
  - removal efficiency;
  - effluent quality;
  - treatment process details;
  - conditions for maintenance of and removal of waste from pre-treatment equipment, including the Contractor to be used;
  - operational and maintenance procedures e.g. grease arrestor service intervals.
- Details of self-regulation monitoring program, including:
  - sampling point;
  - frequency of sampling;
  - method of sample collection and type of sample to be collected;
  - analyses required;
  - methods of analyses;
  - laboratory to be used;
  - data transfer and availability to Unitywater.
- Type, design and location of flow measuring equipment and requirements for calibration;
- Methods to be used for estimation of data lost due to failure of sampling program or flow measurement instrumentation;
- Provision for measurement and sampling of discharge prior to entry to sewer;

- The powers of Unitywater's Trade Waste Officer or Inspector to enter premises in relation to any matter with regard to trade waste control;
- The obligation of the customer concerning any variations to operation or treatment processes that may affect discharge quantity or quality including change of business type;
- The obligations of the customer with respect to payment of charges, fees and penalties;
- Penalties for non-compliance;
- A force majeure clause;
- The conditions by which any difference or dispute between Unitywater and the customer arising from the terms of the Agreement that are not resolved to their mutual satisfaction may be submitted to arbitration;
- Unitywater's rights to review the permit and conditions, impose additional conditions or amendments or delete any existing conditions;
- Reporting arrangements for breaches of any Trade Waste Approval conditions; and
- Any other conditions relevant to the particular discharge as agreed to.

6.7.4 Inspections

For the purpose of monitoring and auditing the conditions of discharge, Unitywater shall routinely and randomly inspect all premises occupied by the holder of a trade waste approval.

Inspections will include, but may not be limited to, the following:

- Check of all chemical storage areas to ensure that they are properly bunded and are not improperly connected to sewer;
- That there are no illegal stormwater connections to the trade waste system;
- That there is no potential for trade waste to overflow improperly to sewer, stormwater or waterways;
- That there are no illegal trade waste connections to the sewer and that there is no potential for trade waste to overflow improperly to the sewer;
- Pre-treatment facilities are regularly and properly operated, maintained and serviced and standby equipment is available where necessary;
- Monitoring of strength and flow is undertaken as required under the Agreement;
- Assessment of work practices to ensure that they do not result in a breach of the Trade Waste Approval or legislation.

6.7.5 Inspection Chambers and Gauging Facility

Category 2 waste streams shall be discharged to Unitywater's sewerage system via an open channel, inspection chamber, gauging facility or other approved inspection facility. The inspection chamber and/or gauging facility shall be located on the trade waste discharge line in an area which is accessible at all times to Unitywater's officers, thus allowing for sampling and/or monitoring equipment to be installed and operated.

Category 1 dischargers who have arrestor trap installations and other pre-treatment devices on the premises shall have a Unitywater approved sampling and inspection facility provided.

6.8 Monitoring Discharge Quantity

6.8.1 Category 1 – Minimal to Medium Risk

Most Category 1 customers are not required to install a trade waste flow meter.

Investigations have established a basis for estimating the wastewater discharged as trade waste by various types of trade and manufacturing processes.

These, along with business specific characteristics such as turnover and installed fixtures and fittings will form the basis of a volume estimation to inform the assessment completed on these customers to allocate to an appropriate treatment tier.

High volume Category 1 customers may, and are encouraged to, install an approved flow measurement device to be calibrated as specified in the Permit conditions.

6.8.2 Category 2 – High Risk

The volume of trade waste discharged to the sewer shall be measured by an approved flow measurement device calibrated as specified in the Agreement. This should be located on the trade waste discharge stream, which should be separate from the domestic waste discharge stream.

Where the flow measured includes domestic waste, an allowance of volume shall be determined by Unitywater.

Customers exempt from installing a flow measurement device shall have the volume of discharge estimated as for Category 1.

6.9 Monitoring Discharge Quality

6.9.1 Category 1 – Minimal to Medium Risk

Quality measurements for Category 1 discharges are required for compliance checks only. Unitywater shall perform this as part of the inspection and monitoring program. Where additional inspection and testing is required as a result of non-compliance then Unitywater shall undertake the testing and charge the customer in accordance with Section 6.10. Non-compliant results will trigger a reassessment of the customer's risk score and may result in the reclassification of the customer to a Category 2.

Where pre-treatment is required to meet sewer admission limits for specified parameters, self-monitoring may be required for those parameters, or a suitable surrogate, to confirm satisfactory pre-treatment. Requirements for self-monitoring and auditing by Unitywater shall be specified in the approval. For quality control and auditing, Unitywater may request duplicate samples from the self-monitoring program. The duplicates will be analysed at Unitywater's own cost.

6.9.2 Category 2 – High Risk

Quality measurements are required for both charging and compliance purposes.

For charging purposes, a system of self-monitoring by the customer shall be used to collect sufficient data to enable the average mass load for the designated charging period to be calculated. Where pre-treatment is required to meet sewer admission limits for specified parameters, self-monitoring will be required for those parameters, or a suitable surrogate, to confirm satisfactory pre-treatment. Requirements for self-monitoring and auditing by Unitywater shall be specified in the approval. The customer shall meet all costs of self-monitoring.

For quality control and auditing, Unitywater may request duplicate samples from the self-monitoring program, to inspect the premises or to collect and analyse samples for overall assessment of compliance with sewer admission limits. Any additional costs associated with these activities will be at Unitywater's cost.

Where additional inspection and testing is required to be performed by Unitywater as a result of non-compliance, Unitywater shall charge the customer in accordance with Section 6.10.

6.10 Trade Waste Charges and Fees

Trade waste charges and fees will be levied in accordance with Unitywater's Schedule of Fees and Charges. The calculation of these fees is based on the pricing principle of 'user pays' and aims to recover the full costs of treating and disposing of trade waste.

6.11 Pre-treatment Compliance and Improvement

6.11.1 Pre-treatment

It may be necessary to install equipment to treat the trade waste before it is discharged into the sewer. For customers installing 'off the shelf' devices such as grease traps, only pre-treatment products that have been appraised by Unitywater and approved by Unitywater can be installed. Please refer to the Unitywater website's registers for a list of pre-treatment device appraisals.

If a pre-treatment device is not listed as approved, application can be made to Unitywater.

Customers requiring complex pre-treatment should contact Unitywater for further information on installation requirements.

Refer to Annexure E - Pre-treatment Guidance for further details on pre-treatment devices.

6.11.2 Plumbing and Drainage

Any plumbing and drainage work associated with the installation of any pre-treatment process shall be in accordance with the relevant plumbing and drainage regulations (refer to Annexure A - Legislation Relevant to the Trade Waste Policy for relevant legislation). It must be carried out by a licensed plumber and drainer.

A Plan Assessment application is required to be submitted to Unitywater as part of this process to ensure an assessment of the trade waste infrastructure is undertaken to ensure it is appropriate.

6.12 Cleaner Production

Unitywater requires that trade waste generators implement waste minimisation practices and install best practice pre-treatment processes to reduce both the volume and the contaminant load of wastes discharged to sewer.

For Category 1 customers, the installation of a Unitywater approved, properly sized and adequately maintained pre-treatment device will be deemed to provide a satisfactory effluent with respect to the target sewer admission limits (refer Annexure C - Treatment Tier Assessment Criteria).

For Category 2 customers (and Category 1 customers who do not meet the above criteria), Unitywater may require the customer to prepare an Effluent Improvement Program.

6.12.1 Effluent Improvement Program

An Effluent Improvement Program will include:

- for an existing discharge, a description of the current effluent;
- provision for monitoring and reporting waste quantity and quality;
- a program involving the development of waste reduction and pre-treatment aimed at reducing contaminant levels over an agreed period to the prescribed admission limits as set out in the agreement;
- an action program must be provided, including expected outcomes, timelines and milestones;
- a program examining waste prevention and recycling options;
- examination of options for the conservation of water; and
- preparation of a report for Unitywater, including a summary of achievements and options.

Existing trade waste customers who are required to prepare an effluent improvement program and, at the time their agreement is due for renewal, have not completed one satisfactorily are required to write to Unitywater requesting an extension of time. Unitywater may issue a new agreement for the premises, subject to conditions that:

(a) A satisfactory effluent improvement program be submitted within a specified period; and

(b) That the agreement may be varied (after submission of the effluent improvement program) as necessary to enforce the implementation of the program.

Where a customer's discharge does not comply with the admission limits, and a satisfactory effluent improvement program has not been provided, the customer may be required to cease discharge of trade waste to the sewer.

The dilution of trade waste with water to achieve compliance with the sewer admission limits is prohibited.

6.12.2 Control of Trade Waste

A summary of legislation relevant to trade waste control and acceptance to sewer is given in Annexure A - Legislation Relevant to the Trade Waste Policy. This is not, nor is it intended to be, a complete listing of all legislation pertaining to the control of trade waste.

6.13 Suspension or Cancellation of Trade Waste Approval

Each of the following is a ground for the suspension or cancellation of a trade waste approval:

- The customer has contravened a condition of the approval;
- The customer has contravened a provision of the legislation (including the Trade Waste Policy and Management Plan);
- The terms of the approval are no longer appropriate because the circumstances under which wastes are generated by the holder of the approval have significantly changed since the approval was given;
- Urgent action is necessary in the interests of public health or safety to prevent environmental harm or prevent damage to Unitywater's sewerage system; and
- Where applicable, trade waste will be suspended or cancelled in accordance with the relevant legislation.

6.14 Penalties and Enforcement

A trade waste customer who is found to be non-compliant with their trade waste approval will be managed in accordance with the below 5 stage process.

Stage 1

A reported or recorded breach of trade waste approval conditions that the customer has not voluntarily rectified, will lead to the issue of an initial Warning Notice. The customer is given the opportunity to attend to the issues and respond to the Warning Notice, and explain why the breach occurred.

The Warning Notice is issued in writing and either posted or emailed to the customer.

The Trade Waste Officer will confirm whether the breach has been resolved with either a site visit or a period of sampling.

Stage 2

If the customer is still in breach, the breach is repeated or the non-compliance is significant, a Compliance Notice will be issued. The customer is given the opportunity to fix the issues and respond to the Compliance Notice. A written explanation is required to explain why the breach occurred. Unitywater may require a formal meeting with the customer to determine the nature of the breach and corrective actions that are being taken to rectify the problem.

The notice may be issued in writing and either posted or emailed to the customer.

The Trade Waste Officer will confirm whether the breach has been resolved with either a site visit or a period of sampling.

Stage 3

If the non-compliance is persistent, the customer will be issued a Show Cause Notice. The customer is required to respond to the Show Cause Notice detailing why further action, including suspension or cancellation of their approval, should not be taken by Unitywater.

The customer will also be required to attend a formal meeting to discuss the nature of the non-compliance and corrective actions that are being taken to rectify the problem.

Stage 4

If Unitywater is not satisfied by the level of information and timeframes given regarding the rectification of the non-compliance, Unitywater may cancel or suspend the trade waste agreement.

At this stage, Unitywater may consider negotiating a new trade waste agreement along with an effluent improvement program (refer Section 6.12).

Stage 5

If the customer continues to discharge non-compliant waste, Unitywater may commence legal action under the relevant legislation.

Unitywater may prosecute any person who commits a breach of any of the relevant Acts and their subordinate legislation, or who refuses or neglects to comply with any direction or requirement by Unitywater pursuant to the relevant legislation or Local Law. Penalties are set out in the relevant

legislation listed in Annexure A - Legislation Relevant to the Trade Waste Policy and include substantial fines.

Any expenses incurred by Unitywater in repairing damage to the sewerage system resulting from any breach of the relevant Acts and any other expenses incurred by Unitywater as a result of such a breach, shall be recoverable as a debt to Unitywater from the person or persons who caused the above damage. These expenses shall be additional to any penalty under the relevant Acts or Council By-Laws.

Penalty charges based on the extent to which the quality of the waste exceeds the sewer admission limits and/or agreed standards may also be applicable.

The non-compliance management process will not apply when Unitywater deem that urgent action is necessary in the interests of public health or safety to prevent environmental harm or prevent damage to Unitywater's sewerage system. In these instances, Unitywater may suspend or cancel the approval without giving a Show Cause Notice.

6.15 Stormwater

Under the *Water Supply (Safety and Reliability) Act 2008*, stormwater is a prohibited substance and not approved for discharge to Unitywater infrastructure. This includes all stormwater, including potentially contaminated stormwater.

Appropriate best practice stormwater management practices should be implemented to manage stormwater at a site to ensure no discharge of contaminants to the environment. Discharge of contaminated stormwater to sewer is not considered an appropriate option as it overloads the sewer and treatment plant infrastructure during rain events.

6.16 Flammable and combustible substances

Under the *Water Supply (Safety and Reliability) Act 2008*, flammable substances (for example petrol) are prohibited substances and not approved for discharge to Unitywater infrastructure.

Because of the risk of a prohibited substance entering the sewer and subsequent harm or injury to sewerage workers and the general public, as well as damage to Unitywater's infrastructure and the environment, the drainage system from areas in which flammable and/or sewage treatment inhibiting liquids are stored, manufactured and/or dispensed in bulk must **not** be connected to the sewer.

6.17 Specific Requirements for Commercial and Industrial Wastes

Refer to Annexure F - Specific Requirements for Commercial and Industrial Waste for a detailed list of special requirements.

7. Responsibilities

The Customer Experience Business Unit – Customer Assurance Section is responsible for the implementation and ongoing administration of the Policy and Management Plan.

8. Annexures

Please refer to the following annexures.

Annexure A - Legislation Relevant to the Trade Waste Policy

The following selected legislation is relevant to the Trade Waste Policy and Management Plan:

Table 2: Relevant legislation to the Trade Waste Policy

Legislation	Relevance to Trade Waste
South-East Queensland Water (Distribution and Retail Restructuring) Act 2009	Creation of Water Netserv Plans to provide strategic planning for the operation of the business. The Trade Waste Policy is a supporting policy of the Netserv Plan.
Water Supply (Safety and Reliability) Act 2008	Prohibits the unauthorised discharge of wastes into the sewerage system. Ensures Unitywater fully assess the effect of the proposed discharge on any existing or potential re-use of wastewater or sludge before issuing a trade waste approval. Gives grounds for suspension, cancellation or amendment of a trade waste approval as defined in sections 182, 183, 184 and 185. Lists substances which are prohibited from discharge into the sewerage system.
Water Act 2000	Purpose is to advance sustainable management and efficient use of water and other resources by establishing a system for water planning, allocation and use. No specific mention of Trade Waste.
Plumbing and Drainage Act 2018 and *Plumbing and Drainage Regulation 2019*	Concerns plumbing and drainage, the licensing of plumbers and drainers, and onsite sewerage facilities. Trade waste not specifically mentioned, but sanitary plumbing and drainage requirements are necessary to convey the trade waste to sewer.
Environmental Protection Act 1994 *Environmental Protection Regulation 2019* *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*	Provides a general prohibition against the pollution of the environment by the discharge of such wastes, except where the person or agency holds an environmental authority permitting such discharge. Ensures Unitywater is responsible for any pollution from stormwater outfalls which must be used only for the disposal of clean water. Requires Unitywater to develop an environmental plan about trade waste management that controls trade waste entering the system.
Local Government Act 2009	Deems it an offence for a person to discharge waste (including trade waste) other than uncontaminated stormwater to stormwater drainage.
Planning Act 2016	Framework to integrate planning and development assessment so that development and its effects are managed in a way that is ecologically sustainable. No specific mention of Trade Waste.

Annexure B - Approvals – Deemed Customers and Risk Assessment

Deemed Customers

Customers whose activities are listed in Table 3 are deemed to be exempt from applying for a trade waste approval.

Table 3: Activities deemed to be exempt

Activity/Business Type
Beautician
Optician
Hairdressing Salon / Barber
Florist
Medical Centre
Dentist
Veterinary surgery
Dog wash/Pet grooming
Non-commercial car wash areas meeting minimum requirements
Bin wash areas meeting minimum requirements
Tattoo Parlour

This list is not exhaustive and will be updated by Unitywater as more deemed activities are identified. Customers whose activities are not listed in Table 3 must, unless otherwise notified by Unitywater, complete and lodge a Trade Waste Application Form. The application will undergo a risk assessment process which is described below.

Initial Risk Assessment

The following formula is used to calculate the initial category your business will fall under. This category is used to determine if a permit or agreement is required and the next level of assessment required to determine charges and the level of monitoring. There is potential to move to a lower risk category by improving and reducing the trade waste you discharge, therefore reducing your trade waste charges.

Risk Score = SAL + V + A + S + P + H

Where:

SAL = Sewer Admission Limit score

V = Volume score

A = Activity Score

S = Special Substance Score

P = Pre-treatment score

H = Historical Incidence score

To determine the score for the six parameters within the formula, a table is provided for each of the parameters giving scores from high to low, dependent on the information provided by the customer in the trade waste application form.

Sewer Admission Limit (SAL) score

The Sewer Admission Limit score is based on whether the discharge quality meets (or is expected to meet) or exceeds (or is expected to exceed) the target sewer admission levels. A discharger is above sewer admission levels if any of the parameters exceed the level prescribed in the target sewer admission levels.

Table 4: SAL score

Level relative to SAL	Score
All parameters below SAL	0
Any parameter above SAL	50

Volume score

The volume score is based on the waste volume as a percentage of the total inflow to the receiving STP.

Table 5: Volume score

Max daily discharge as a % of receiving STP capacity	Score
<0.5%	0
0.5 – 2.5%	10
2.5 – 5%	25
5 – 10%	50
>10%	75

Activity Score

The activity score is based on a general assessment of the processes producing the waste stream. Factors include the potential organic and chemical strength of the waste stream, and the robustness and degree of control of the process producing the waste stream.

Score 50 – Waste streams which may contain a wide and undefined range of chemicals. Chemical manufacturing and formulation: toxic chemicals or varied and unpredictable range of chemicals.

Score 40 – Waste streams containing a consistent and well-defined range of chemicals, some of which may be of concern e.g. metal finishing and refining. Also waste streams that contain very high or variable organic, solids and/or sulphate load.

Score 20 – Waste streams that have consistent, elevated organic or solid strengths.

Score 10 – Waste streams which have consistent and low strengths of organic and solids.

Score 0 – Waste streams which have generally similar to domestic sewage in strength.

Table 6: Activity score

Activity	Score
Aquaculture and Seafood Processing	20
Extractive Industries	20
Mining and Petroleum Activities	50
Metal and Wood Product Manufacturing	20
Metal finishing and Refining	40
Chemical Manufacturing	50
Food and Beverage Manufacturing	40
Other Manufacturing	20
Water Treatment	20
Waste Treatment and Disposal	50
Commercial Kitchen (this covers all food preparation and processing, including butchers and other retail)	10
Abattoir or other Animal Processing	40
Laundry and Dry Cleaning	10
Equipment/machinery Maintenance (Mechanical Repairs), including washing (commercially)	10
Wastewater with biosecurity risk or radioactive	50
Medical and Veterinary Services	0
Personal and Other Services	0

If no score provided in Table 6 for the Activity the subject of the application, a score based on the descriptions for the scores will be applied.

Substance score

The substance score is based on substances used in the processes, that have the potential to be released to Unitywater assets in the liquid waste stream and the risk they pose to the environment, health and safety, wastewater assets, treatment processes and effluent and biosolids contamination. These substances are contained in the mandatory SALs due to their increased risk and the assessment will involve checking the levels in the wastewater will not exceed the mandatory SALs. The proposed substance scores are in accordance with the following definitions:

- Score 70 – Substances of high health and safety concern or with high concern with respect to accumulation in treated wastewater or biosolids or which may upset treatment processes or may damage sewer fabric.
- Score 40 – Substances of moderate health and safety concern, including those which are likely to be rendered harmless on contact with wastewater or with moderate concern with respect to accumulation in treated wastewater or biosolids.
- Score 10 – Substances which may cause undesirable elevation of concentrations in treated wastewater or biosolids or which may cause damage to sewer fabric under some conditions.

If there are multiple non-domestic substances present, only the highest score is applied.

Table 7: Substance score

Substance		
Score 10	Score 40	Score 70
Barium (and compounds)	Arsenic (and compounds)	Chlorinated hydrocarbons & Organophosphate pesticides
Boron (and compounds)	Bromine (and compounds)	Copper (and compounds)
Calcium (and compounds)	Cadmium (and compounds)	Cyanide (and compounds)
Chloride	Chromium (and compounds)	Flammables/explosives
Cobalt (and compounds)	Gluteraldehyde	Hydrofluoric Acid
Fluoride	High BOD Formaldehyde	Mercury (and compounds)
Petroleum Hydrocarbons (wash down amounts)	Iodine	Petroleum Hydrocarbons (process amounts)
Silica	Lead (and compounds)	Radioactive waste and isotopes
Strontium (and compounds)	Molybdenum (and compounds) Molybdenum Nickel	Silver (and compounds)
Thiosulphate	Styrene	Zinc
Tin		Persistent Organic Pollutants (POPs)
Sulphide		

Pre-treatment score

The pre-treatment score is based on the complexity of pre-treatment required as an indicator of Trade Waste stream complexity/strength and the provision of adequate pre-treatment prior to discharge.

Table 8: Pre-treatment score

Level of pre-treatment	Score
No or minimal pre-treatment required as minimal risk (e.g. baskets, silt traps)	0
Simple pre-treatment adequate to manage risk (e.g. grease arrestors)	20
More advanced pre-treatment would reduce the risk (e.g. biological treatment, filtration, DAF and/or pH dosing)	50

Historical Incidence score

The historical incidence score is based on the type and severity of historical compliance issues associated with the applicant.

Table 9: Historical incidence score

History	Score
New work / change of occupier only	0
No historical incidences	0
Environmental concern – cases issued with initial notice in the past 2 years for parameter breach	40
OH&S concern – cases issued with initial notice in the past 2 years for OH&S parameters listed in the mandatory sewer admission levels	70

Risk score and index

The risk score is calculated using the formula and the above tables for each parameter. This score is translated into a risk index based on the score ranges shown in Table 10.

Table 10: Initial risk assessment – score and index

Risk Score	Risk Index
≤ 10	0 - Very Low
>10 and < 90	1 - Minimal to Medium
≥ 90	2 - High

The risk index from the initial risk assessment determines the next stage of the process.

- A risk index of 0 is the equivalent of a 'deemed' customer and requires no further action.
- A risk index of 1 means the customer will require a permit (refer Section 6.4)
- A risk index of 2 means the customer will undergo a further, more detailed, risk assessment process.

Category 1 Treatment Tier Assessment

Those customers classified with a risk index of 1 will undergo a further assessment to determine the appropriate Treatment Tier for pricing.

Each Category 1 customer is assigned one of five treatment tiers based on either pre-treatment requirements in the first instance for non-food businesses or food business attributes that can affect the volume and strength of trade waste.

Non-food businesses that have installed pre-treatment infrastructure that does not accurately reflect the volume of the trade waste discharge capacity, can provide additional information at the time of the application, and the correct band can be allocated.

For example, a small mechanical workshop that has installed an oily water separator with a capacity of 1000 litres per hour, but, has the capacity to produce no more than 100 litres of trade waste per day, will be allocated the tier that reflects the actual potential volume not the pre-treatment capacity. Very low not low.

Table 11: Category 1 Treatment Tiers

Treatment Tier	Food business	Non-food businesses (Primarily based on pre-treatment capacity)
Very low	Very small, low turnover business serving low fat food that is raw or cooked elsewhere	<1000 litres per hour
Low	Small cafes and takeaways serving predominantly low fat food cooked on site	1000 – 3499 litres per hour
Medium	Medium sized businesses serving a variety of low and higher fat foods	3500 – 10,000 litres per hour
High	Large businesses serving a large volume of both high and low fat food.	> 10,000 litres per hour
Very high	Very large, high turn over businesses serving predominantly high fat foods cooked on site by frying, grilling and roasting, often open 7/24	N/A – often trigger Category 2

Full details of this assessment can be found in Annexure C – Treatment Tier Assessment Criteria

Detailed Risk Assessment for Category 2

Those customers classified with a risk index of 2 will undergo a further, more detailed risk assessment that will involve assessing various discharge scenarios against the capacity of the receiving treatment works.

The methodology for the detailed risk assessment involves the following steps:

- Monitoring and recording the trade waste discharge volume, pH and COD, TN, TP and SS concentrations over a number of process operating conditions;
- Establishing a range of discharge scenarios based on likely variations of daily flow rates and volumes, discharge times and flow balancing, biological load, nutrient load and pH correction;
- Determining the critical process parameters and calculating the spare capacity in the network and at the receiving treatment plant;
- Defining which parameters are either outside of acceptable process limits or are not treatable by the process and will result in a contaminated effluent or biosolid product;
- Conducting a risk assessment for each of the scenarios using a likelihood vs. consequence risk matrix;
- Establishing a level of acceptable risk based on the outcomes of the risk assessment which will enable Unitywater to define what levels of pre-treatment, flow balancing and pH correction are required before the discharge is accepted into the sewerage.

Where a risk is deemed unacceptably high, Unitywater will not issue the applicant with a trade waste approval.

Annexure C - Treatment Tier Assessment Criteria

Discharges that fall into Category 1 must then be allocated one of the following five treatment tiers:

Low, Very Low, Medium, High or Very high

Each business is scored according to a number of factors. The total score will determine the treatment tier that is appropriate for that business. Different charges apply for each tier.

Assessment methodology

1. Does the business have a food or beverages service?

   Yes – treatment tier determined by a number further questions – please refer to Table 12 - food scoring.

   No – treatment tier predominantly* determined by the capacity of any pre-treatment infrastructure installed or required – please refer to Table 14 - Pre-treatment capacity.

*If pre-treatment size does not accurately reflect the trade waste discharge, a site visit and further information in relation to the hydraulic loading and actual volume can be obtained and used.

Table 12: Food Scoring

Criteria	Sub-criteria	Score
Food Type Score	Raw food, pre-cooked food and food with very low fat/oil predominantly served.	0
	Food with a low quantity of fats and oils predominantly used.	5
	Food with a high amount of fat and oils used in a lot of menu items.	10
Food Preparation Score	No cooking, pre-packaged food, assembling raw food cooked or food prepared and cooked elsewhere	0
	Steaming, boiling, microwaving, baking	5
	BBQ, frying, deep frying, grilling, roasting, hot smoking	10
Customer Turnover Score	Catering for sporadic events (for example, community centres that can be hired out for events) or a business serving mainly drinks and pre-prepared food items.	0
	Takeaways and/or up to 50 seats for regular dine in food service, includes shared food court seating	5
	50-100 seats for regular dine in food service (includes infrequent functions or events for larger numbers, for example over 100 people)	10
	>100 seats for regular dine in food service, or high meal turnover eg. dine in, takeaway and drive-thru and/or home delivery facility	15

Criteria	Sub-criteria	Score
Fixture Loading Score	Small-medium food prep kitchen, similar to a domestic kitchen or smaller. This type of kitchen would likely not require a food license from Council.	0
	Commercial kitchen	10
Trading Score	Events or sporadic trading (i.e. functions or weekend trading only)	0
	Open less than 7 days per week or trading part time hours (e.g. only open 8am-1pm)	5
	Open 7 days per week offering regular daily meals (i.e. lunch and dinner)	10
	Serving food 24 hours per day, 7 days per week	15
Waste Stream Score	Single trade waste stream source (e.g. kitchen, laundry, workshop etc.)	0
	Multiple trade waste stream sources (not including multiple kitchens)	15

Table 13: Treatment Tier and Food Score

Treatment tier assigned following food score calculation				
0 - 15	16 - 30	31 - 44	45 - 54	55 >
Very Low	Low	Medium	High	Very High

Table 14: Pre-treatment Capacity

Capacity of the pre-treatment device (litres per hour)			
0 - 999	1000 - 3499	3500 – 10,000	> 10,000
Very Low	Low	Medium	High

Annexure D - Sewer Admission Limits

Target Sewer Admission Limits

Table 15 shows the target sewer admission limits. Unless otherwise specified in the trade waste approval, these limits are absolute maximums.

Table 15: Target sewer admission limits

Parameter	Units	Limit
Temperature	^{o}C	< 38
pH		6.0 – 10.0
Biochemical Oxygen Demand (BOD_5)	mg/L	300
Chemical Oxygen Demand (COD)	mg/L	600
Suspended Solids	mg/L	300
Total Dissolved Solids (TDS)	mg/L	Defined with each specific application
Grease and Oil	mg/L	100
Solids – Gross	mm (max linear dimension) m/hr (Quiescent Settling Volume)	20 3
Colour	n/a	Limited such as not to give any discernible colour in treatment works discharge.
Odour	n/a	Not detectable in 1% dilution or causing an odour problem in Unitywater's sewerage system.
Chlorine (Cl_2)	mg/L	10
Sulphate (measured as SO_4)	mg/L	500
Sulphite (measured as SO_2)	mg/L	15
Surfactants - Anionic	mg/L	500
Aluminium (Al)	mg/L	100
Iron	mg/L	100
Ammonia	mg/L	100
Total Nitrogen	mg/L	150
Total Phosphorus (as P)	mg/L	50
Manganese	mg/L	100

Mandatory Sewer Admission Limits

Table 16: Mandatory sewer admission limits

Parameter	Units	Limit
Inorganic		
Boron (B)	mg/L	**100**
Bromine (Br_2)	mg/L	10
Fluoride (F)	mg/L	30
Cyanide (CN^-)	mg/L	5
Sulphide (S^{2-})	mg/L	5
Metals		
Arsenic (As)	mg/L g/day	5 15
Cadmium (Cd)	mg/L g/day	2 6
Chromium (Cr) Total	mg/L g/day	20 75
Chromium (Cr) Hexavalent	mg/L	10
Cobalt (Co)	mg/L g/day	10 30
Copper (Cu)	mg/L g/day	10 75
Lead (Pb)	mg/L g/day	10 30
Mercury (Hg)	mg/L g/day	0.05 0.15
Nickel (Ni)	mg/L g/day	10 30

Parameter	Units	Limit
Selenium (Se)	mg/L g/day	5 15
Silver (Ag)	mg/L g/day	5 15
Tin (Sn)	mg/L g/day	10 30
Zinc (Zn)	mg/L g/day	10 75
Organic		
Formaldehyde (HCHO)	mg/L	50
Phenolic compounds (as Phenol)	mg/L	100
Pentachlorophenol	mg/L	5
Petroleum hydrocarbons	mg/L	30
Halogenated Aliphatic hydrocarbons	mg/L	5
Halogenated Aromatic Hydrocarbons (HAHs)	mg/L	0.002
Polychlorinated biphenyls (PCBs)	mg/L	0.002
Polybrominated biphenyls (PBBs)	mg/L	0.002
Polynuclear Aromatic Hydrocarbons (PAHs)	mg/L	5
Pesticides: General (insecticides/herbicides/fungicides)	mg/L	1.0
Pesticides: Organophosphates		
Azinphos-methyl	mg/L	0.1
Azinphos-ethyl	mg/L	0.1
Coumaphos	mg/L	0.1
Demeton	mg/L	0.1
Dichlorvos	mg/L	0.1

Parameter	Units	Limit
Dimethoate	mg/L	0.1
Disulfoton	mg/L	0.1
Fenitrothion	mg/L	0.1
Fenthion	mg/L	0.1
Malathion	mg/L	0.1
Methamidophos	mg/L	0.1
Mevinphos	mg/L	0.1
Omethoate	mg/L	0.1
Oxydemeton-methyl	mg/L	0.1
Parathion	mg/L	0.1
Triazophos	mg/L	0.1
Trichlorfon	mg/L	0.1
Pesticides: Organochlorines		
Aldrin	mg/L	0.001
Chlordane	mg/L	0.006
DDT	mg/L	0.003
Dieldrin	mg/L	0.001

Annexure E - Pre-treatment Guidance

General

All pre-treatment facilities installed must be included on Unitywater's list of facilities approved for installation (please see unitywater.com for approved list). They must also have successfully completed the Water Services Association of Australia (WSAA) product appraisal process for trade waste pre-treatment facilities.

Note: Water authorities that are members of the Water Services Association of Australia (WSAA) have endorsed the WSAA appraisal process. It is expected that this process will replace the approval process currently used by individual authorities.

Other requirements

In-floor dry basket arrestor (floor waste)

All floor waste must include a shut-off valve mechanism that ensures there is no flow to the sewer when the basket is removed.

Grease Arrestors

Grease arrestors are installed in drainage systems to keep as much grease, fats and oils out of the sewerage system as possible. They separate solids and oils from water, leaving them behind when the water discharges into the sewerage system. This minimises blockages and odours, and ensures the sewage treatment plant is able to produce recycled water suitable for use in the community.

Grease arrestors are not designed to dispose of unwanted oils and grease. Servicing frequencies will be included as a condition of Trade Waste Discharge Permits. Unitywater does not clean out grease traps and you will need to contact a licensed private contractor to organise this service.

The minimum size grease arrestors generally approved for installation is 1000 litres.

Grease arrestors with a capacity less than 1000 litres may be approved as an adjunct to an existing grease arrestor or where site constraints make the installation of a 1000 litre (minimum) grease arrestor inequitable or impossible.

All grease arrestors must:

- be fitted with air-tight lids;
- have a hose tap with backflow prevention installed within three metres of the arrestor;
- be installed in a manner that will enable servicing and maintenance to be completed in accordance with acceptable workplace health and safety guidelines; and
- Unitywater recommends 100mm induct and educt vents.

Installation requirements for grease arrestors:

- Must be fitted with air-tight lids that are flush with the top of the arrestor.
- Must be fitted with 100mm induct and educt vents.
- Must have a hose tap with backflow prevention within three metres of the arrestor.
- Its placement allows servicing and maintenance to be completed according to Workplace Health and Safety guidelines.
- If a filter is a condition of the approval, a spare filter must be supplied.
- Its remote servicing pipes must be at least 80mm diameter, and:
    - must include 'sweep' type bends where pipe changes direction (i.e. elbows and tees must not be used);
    - the pipe inlet at the grease arrestor end should have an 80mm lockable valve and an 80mm cam lock fitting - placed 900mm above the floor as close as possible to the arrestor;
    - the suction end of the pipe (truck) should be easily accessible and have an 80mm male cam lock fitting and cap; and
    - filled with water.

Servicing requirements for grease arrestors:

Grease arrestors must be serviced regularly by a licensed liquid waste contractor. Intervals between servicing depend on the type and volume of waste discharged.

Keeping to your recommended schedule will prolong the life of the arrestor and minimise odours.

Filters must be replaced with a clean, decontaminated filter **at least every eight weeks**. The dirty filter must be transported off-site for cleaning.

Do not attempt to service the grease arrestor yourself. The waste it collects must be removed and disposed of in an approved manner to protect the environment.

Alternatively call your liquid waste contractor for an immediate service.

Do not use solvents or pesticides in your grease arrestor. If you are experiencing strong odours, check that vents, lids, frames and concrete surrounds are in good order.

Some enzymes, odour control agents and bacteria additives are approved for use, however separate approval is required and you should contact our trade waste advisor prior to discharging these substances into the drain.

Filters

- If the arrestor's approval includes a filter, a spare filter must be supplied with the unit.
- Filters must be replaced with a clean, decontaminated filter at intervals not greater than eight weeks.
- The filter removed from the arrestor must be transported off-site for decontamination and cleaning.
- Remote servicing pipes (pump out lines should only be used where the arrestor cannot be located in an easily accessible location).
- Must be 80mm diameter.
- Changes of direction and junctions must include 'sweep' type bends i.e. elbows and tees must not be used.
- Inlet (grease arrestor end) of pipe should terminate with a lockable 80mm ball-valve and an 80mm cam lock fitting, 900mm above the floor as close as practicable to the arrestor.
- Suction (truck) end should be located in an easily accessible position and terminate with an 80mm male cam lock fitting and cap.

After installation, all grease arrestors must be checked to ensure:

- the arrestor was not damaged during transport or installation;
- all baffles are fixed in the correct positions;
- all delivery bolts have been removed;
- formwork used during the installation has been removed; and
- all lids:
  - be removed;
  - are made air-tight;
  - are fitted correctly into the frame, flush with the top of the arrestor and filled with water.

Sizing of grease arrestors

The size of the grease arrestor required for a business or number of businesses will depend on the size and type of the business(es) and Unitywater.

Unitywater's website has information to help guide you and trade waste team members can be contacted for advice.

Servicing

Servicing frequencies will be included as a condition of the Trade Waste Approval issued for businesses discharging to a specific arrestor. Frequencies vary according to:

- Type and size of the grease arrestor
- Type and size of the business(es) discharging to the arrestor.
- Cooking and cleaning practices used at the business(es).

As a general guide, the periods between servicing should not be greater than three months.

Oil and solids / Water separators

Triple interceptor traps are only approved to pre-treat wastewater from areas where:

- no mechanical repairs are completed; and
- no washing or degreasing of motors is undertaken.

All oil and solids / water separators must:

- be fitted with air-tight lids;
- have a hose tap with backflow prevention installed within three metres of the separator;
- be installed in a manner that will enable servicing and maintenance to be completed in accordance with acceptable workplace health and safety and environmental guidelines;
- discharge over a tundish and include a 50mm air gap;
- include a readily accessible sample point; and
- feature a wastewater holding tank that:
  - has a capacity of at least 1,000 litres;
  - is fitted with air-tight lids; and
  - includes a high-level alarm that is noticeable from a usually occupied work area.

After installation all oil and solids / water separators must be checked to ensure:

- The separator was not damaged during transport of installation.
- All baffles and coalescing plates are fixed in the correct positions.
- All delivery bolts have been removed.
- Any form work used during the installation has been removed.

Unitywater's Trade Waste Officers will usually require the installer or supplier of the equipment to attend a post-commissioning inspection that will include the activation of all pumps and alarms.

Servicing

Servicing frequencies will be included as a condition of the Trade Waste Approval issued for the business discharging to the arrestor. Frequencies vary according to:

- Type and size of separator.
- Type and size of business(es) discharging to the separator.
- Work and cleaning practices used at the business(es).

For a standard business and separator, the maximum period between servicing is usually three months.

Oil and grit arrestors (Triple-interceptor traps)

Triple-interceptor type traps are only approved to pre-treat wastewater from areas where:

- No mechanical repairs are completed; or
- No washing or degreasing of motors is undertaken.

Hardstand Areas

Areas that are greater than 900x900mm and are approved to discharge to the sewer must be either roofed or have a rainwater diversion system installed.

Roofed Areas

The roof must overhang the bund by 900mm or 10% of the height (whichever is greatest). Also, the bund must be at least 100mm high.

Rainwater Diversion Systems

Unitywater assesses and approves discharges to sewer only. Any discharge to stormwater is the jurisdiction of Local or State Government.

Diversion valves will be considered to ensure only wastewater generated is diverted to sewer and not stormwater.

The diverted wastewater may require further pre-treatment prior to discharge to Unitywater's sewer.

Unitywater's Trade Waste Officers will usually require the installer or supplier of the equipment to attend a post commissioning inspection that will include the activation of all pumps and alarms.

Draining pipe

All equipment must be installed in accordance with the relevant codes of practice and regulations. As a general guide, all drainage piping upstream from a trade waste pre-treatment facility must be approved trade waste piping e.g. HDPE or equivalent.

Annexure F - Specific Requirements for Commercial and Industrial Waste

Removing Regulated Waste from Premises

No person shall discharge or cause to be discharging directly or indirectly to the sewer, wastes from any waste transport vehicle without Unitywater approval through the issue of a Permit or Agreement.

Removal of regulated liquid wastes from a premises shall only be carried out by properly licensed waste transporters and transported, stored, treated or disposed of in accordance with the relevant environmental protection legislation (refer Annexure A - Legislation Relevant to the Trade Waste Policy).

Removal and disposal of sewage and septic tank sludges shall only be done by a waste transporter licensed under the relevant environmental protection legislation (refer Annexure A - Legislation Relevant to the Trade Waste Policy).

All waste transporters shall be required to maintain records as prescribed by Unitywater to account for all waste collected and disposed of within or outside the Unitywater's boundaries.

Trade waste charges in accordance with Unitywater's standard fees and charges will apply to transported liquid waste approved for discharge to the sewer.

Acceptable Liquid Waste is listed at www.unitywater.com. Any liquid waste not listed must be discussed with a Unitywater Trade Waste officer.

Arrestor Installations

Where grease and oil arrestors or other similar devices are used to pre-treat waste prior to discharge to sewer they will be approved by Unitywater.

In a situation where a grease arrestor is required for pre-treatment but cannot be installed because of specific site constraints, additional charges may apply (refer Section 6.10).

General pre-treatment guidelines for trade waste generators are available from the Trade Waste Officer.

Grease Arrestors

Guidance on the sizing and installation of grease arrestors is available from www.unitywater.com or by contacting a Unitywater Trade Waste Officer.

Minimum size grease arrestors is 1000 litres. Grease arrestors with a capacity greater than 2000 litres will be assessed on a site by site case.

Where it is intended that several trade waste generators share the use of a grease arrestor, the following information is required to be clearly tabled on the plan submitted with the application for approval:

- the size of the arrestor;
- details of the loading to be discharged by each trade waste generator;
- the names of the businesses and shop number(s) sharing the arrestor.

Grease arrestors must be located to allow appropriate access for inspection, pump out and cleaning. A hose cock with suitable backflow prevention shall be provided for cleaning. The location must be approved by Unitywater prior to installation.

All grease arrestors shall be fitted with full length and width opening, gas tight covers and frames.

The use of solvents, enzymes, mutant or natural bacterial cultures, odour control agents or pesticides in grease arrestors is prohibited unless specifically approved by Unitywater. Conditional approval may be given to allow the customer to demonstrate to Unitywater that the product to be used does not adversely impact on the sewerage system or the environment.

Maintenance cleaning of grease arrestors shall be carried out on a regular basis in accordance with conditions of the trade waste approval by a waste transporter licensed under the relevant environmental protection legislation (refer Annexure A - Legislation Relevant to the Trade Waste Policy).

In a situation where a grease arrestor is required for pre-treatment but cannot be installed because of specific site constraints an equivalent arrestor charge (refer Section 6.10) will apply.

Mineral Oil Arrestors

Appropriately sized mineral (petroleum) oil arrestors for the treatment of oily wastewater will be approved in most circumstances, providing acceptable methods are met. Acceptable methods include:

- coalescing plate separators;
- membrane technology;
- dissolved air flotation (DAF);
- chemical precipitation;
- hydrocyclones;
- triple stage interceptors; and
- other apparatus /methods.

Each application will be assessed on the nature of the oily waste to be treated, the proposed treatment method and site location.

Subject to recommendations by the manufacturers of plate separators, “Quick Break Detergents” may be used with plate separation units.

Maintenance cleaning of mineral oil arrestors shall be carried out on a regular basis in accordance with conditions of the trade waste approval. Removal of oily waste shall be done by a waste transporter licensed under the relevant environmental protection legislation (refer Annexure A - Legislation Relevant to the Trade Waste Policy).

Other Arrestor Applications

Arrestor installations may be used for other trade waste treatment applications such as:

- silt separation;
- oil and grease (non- petroleum);
- cooling;
- neutralisation; and
- other specific applications approved by Unitywater.

Each application will be assessed on the nature of the waste to be treated, the proposed treatment method and site location.

Maintenance cleaning of arrestors shall be carried out on a regular basis in accordance with conditions of the trade waste approval by a waste transporter licensed under the relevant environmental protection legislation (refer Annexure A - Legislation Relevant to the Trade Waste Policy).

Enzymes / Biological Cultures

Enzyme and bacterial cultures are not permitted unless specific prior written approval has been granted by Unitywater. Conditional approval may be given to allow the customer to demonstrate to Unitywater that the product to be used does not adversely impact on the sewerage system.

Food Waste Disposal Units

Food waste disposal units (garbage grinders/in sink waste disposal units) may be approved for non-residential use by specific application to Unitywater.

Commercial Swimming Pools/Ornamental Ponds

The backwash and pool water from commercial and public swimming pools and ornamental ponds constitute a trade waste and may not be discharged to sewer without approval through the issue of a Permit/Agreement.

Medical, Clinical, Veterinary and Infectious Wastes

Solid wastes from any hospital, clinic, office or surgery of a medical or veterinary facility or laboratory, aged care or health transport facility; including, but not limited to, hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, or any paper or plastic item of a disposable nature, or any portions of human or animal anatomy; shall not be discharged to the sewer.

The discharge of liquid wastes containing faeces and body fluids to sewer from any hospital, clinic, office or surgery of a medical or veterinary facility or laboratory, convalescent or aged care facility or health transport facility is permitted in accordance with the National Guidelines for Waste Management in the Health Industry, 1999, National Health and Medical Research Council.

The discharge of any other infectious or hazardous liquid wastes deemed to pose a threat to public health and safety requires Unitywater approval. Approval is conditional on such wastes being treated to render them non-infectious or non-hazardous prior to discharge. Additional charges may apply.

Containment of Toxic/Hazardous Substances

Any potentially toxic or hazardous substances shall be stored and managed in compliance with the relevant Australian Standards. However, as a general guideline this should be in areas where leaks, spillages, or overflows cannot be drained by gravity or by any automated mechanical means to the sewer or stormwater system.

Discharge of Liquid Wastes from Buses, Aircraft and Vessels

The discharge of galley and toilet wastes from recreational vessels and vehicles may be permitted subject to conditions set out in the permit or agreement for discharge.

Wastewater charges, in accordance with Unitywater's standard fees and charges, will apply.

Landfill Leachate

Leachate from landfill sites and wastewater from waste treatment/disposal facilities constitutes a trade waste and may not be discharged to sewer without approval through the issue of a Permit/Agreement.

Wastewater charges in accordance with Unitywater's standard fees and charges or Wastewater Pricing Policy will apply, depending on the method of discharge i.e. via tanker or direct to sewer.

Discharge from Open Areas

The discharge of surface water from a potentially contaminated open area, such as an open excavation associated with a construction site, to the sewerage system can cause severe operational problems to Unitywater. However, there may be circumstances when it is environmentally beneficial to accept these wastes to the sewer temporarily under strict controls.

Unitywater may, in exceptional circumstances, accept these wastes subject to suitable pre-treatment and in accordance with conditions set out in the permit or agreement for discharge. Approval must be sought from Unitywater before any discharge is to commence.